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EXAMINER

HOUSTON, ELIZABETH

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Please find below and/or attached an Office communication concerning this application or proceeding.

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/661,361
Filing Date: September 12, 2003
Appellant(s): MACKIEWICZ ET AL.

Thomas Majcher
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 04/12/10 appealing from the Office action mailed 09/10/09.

(1) Real Party in Interest

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The following is a list of claims that are rejected and pending in the application:

1-4, 6-15, 17, 18, 21, 32, 42-52

(4) Status of Amendments After Final

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

(5) Summary of Claimed Subject Matter

The examiner has no comment on the summary of claimed subject matter contained in the brief.

(6) Grounds of Rejection to be Reviewed on Appeal

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being maintained by the examiner except for the grounds of rejection (if any) listed under the

subheading "WITHDRAWN REJECTIONS." New grounds of rejection (if any) are provided under the subheading "NEW GROUNDS OF REJECTION."

(7) Claims Appendix

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

(8) Evidence Relied Upon

5,741,327	FRANTZEN	04-1998
DE 19728337	EHRFELD	07-1999

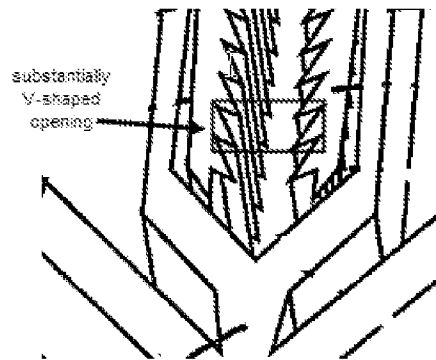
(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:
Claims 1-4, 6, 7, 32, 42, 51, 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frantzen (USPN 5,741,327) in view of Ehrfeld (DE 197 28 337).

Frantzen discloses a stent comprising a structural body having a certain level of radiopacity (nitinol) and at least one marker holder integrally formed therein (For example Fig. 11, 64, 67). The device comprises a radiopaque marker (96) attachable within the marker holder. The marker holder includes a pair of projecting fingers, which define an opening (62). The radiopaque marker (94) includes a mounting region (96) that fits within the opening defined by the fingers. The marker is attached to the fingers by a heat weld (Col 7, L64).

Frantzen does not disclose that the projecting fingers have a substantially linearly extending contact edge and forms a V-shaped opening or that the radiopaque marker includes a V-shaped mounting region with linearly extending contact edges.

However Ehrfeld teaches a connecting configuration (Fig. 4a and 4b) with the holder having projecting fingers (26,27) defining a v-shaped opening (for example 24a and 22a) (note that each pair of corresponding ratchets defines a substantially V-shaped opening as best seen in Fig. 4b and for example shown below) and a prong (21) (equivalent of the claimed marker) including a substantially V-shaped mounting region which fits within the opening of the projecting fingers (Fig. 4b). The connecting fingers are connected at a notched region located between the fingers to allow them to move laterally to accept the prong (compare figures 4a and 4b). The V-shaped opening defines a first angle that is smaller than angle of the prong when the prong is unattached and the V-shaped opening is adapted to enlarge to the angle of the prong when it is placed in the opening. (Compare figures 4a and 4b and note how the inner fingers (27), which define the V-shaped opening, move outward when the prong is inserted, thus increasing the space between the fingers to accommodate the prong and thereby increasing the angle of the V-shaped opening). The mounting region of the prong is clearly larger than the opening defined by the fingers when unattached and the fingers are movable to form a larger opening when attached (as seen in comparing Fig. 4a and 4b). It is clear by the outward movement of the fingers when the prong is inserted that the fingers (holder) applies a force on the sides of the mounting region of the prong.



It would have been obvious to one having ordinary skill in the art at the time of the invention to incorporate the connecting technique of Ehrfeld into the stent of Frantzen for the purpose of providing a more secure fit. The bias arms combined with the ratchet teeth would provide a strong hold and prevent the two parts from coming apart. If a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, applying the technique to a similar device would have been obvious.

Claims 8-15, 17, 18, 21 and 43-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frantzen in view of Ehrfeld and further in view of Duerig et al (USPN 6,503,271).

Frantzen modified by Ehrfeld discloses the device substantially as claimed as stated above except for the limitation that the radiopaque marker is made from a nickel-titanium alloy including a ternary element. However, Duerig discloses a stent with radiopaque markers that are made from a nickel-titanium alloy with a ternary element that is platinum (Col 10, lines 15-23). Duerig further discloses that use of a micro-alloy is advantageous to overcome the challenge of galvanic corrosion (Col 4, lines 22-24). It

Art Unit: 3731

would have been obvious to one having ordinary skill in the art at the time of the invention to incorporate a micro alloy into the invention of modified Frantzen in order to provide an enhanced material that prevents galvanic corrosion.

Regarding claim 10, modified Frantzen by discloses the claimed invention except for the atomic percent of platinum. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide platinum in the percentage of between and including 2.5% and 15%, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch* 617 F.2d 272,205 USPQ 215 (CCPA 1980).

(10) Response to Argument

Appellant again argues that Ehrfeld is directed to a mechanism for locking the struts for forming the stent body which has nothing to do with attaching radiopaque markers to the stent. While examiner agrees that Ehrfeld is in fact teaching a locking mechanism used for a different purpose, examiner strongly disagrees that it has nothing to do with attaching a separate component such as radiopaque markers to a stent. Frantzen discloses the base structure of a stent having connecting fingers and a separate radiopaque marker component attached via the connecting fingers similar to the instant invention that is a stent with connecting fingers and a separate radiopaque marker attached via the connecting fingers. The most notable difference between Frantzen and the instant invention is the shape of the connecting structure. While Frantzen has a generally round radiopaque marker with fingers shaped to

Art Unit: 3731

accommodate the marker shape, the instant invention has a "V-shaped" radiopaque marker with fingers shaped to accommodate the marker shape. To provide the missing feature, it is well within the scope of the ordinary artisan to look to other connecting type mechanisms to determine if changing the shape of the marker and connector is a novel or patentable feature. Ehrfeld teaches a connecting component. While it is not explicitly for connecting a separate component such as a radiopaque maker, it is for connecting two components that were not previously connected. Looking at both Frantzen and Ehrfeld, one of ordinary skill would be able to determine that the connecting mechanism would provide a stronger tighter hold on component than the connecting mechanism of Frantzen. A person of ordinary skill has good reason to pursue the known options within his or her technical grasp if it yields predictable results. Appellant states that the combination of Frantzen and Ehrfeld would merely result in a stent with radiopaque markers at the ends of the stent and a locking device for maintaining expansion of the stent. Appellant is reminded that the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

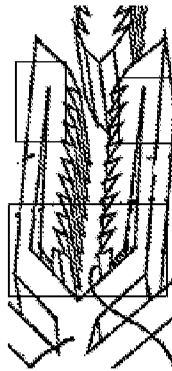
Appellant states that Ehrfeld does not disclose a substantially linearly extending contact edges but rather discloses a zigzag contact edge. Examiner respectfully disagrees. Linearly is defined as: *having the form of or resembling a line; of, consisting*

Art Unit: 3731

of, or using lines (source: linearly. (n.d.). *Dictionary.com Unabridged*. June 16, 2010, from Dictionary.com website: <http://dictionary.reference.com/browse/linearly>). Zigzag is defined as: *a line, course, or progression characterized by sharp turns first to one side and then to the other* (source: zigzag. (n.d.). *Dictionary.com Unabridged*. June 16, 2010, from Dictionary.com website: <http://dictionary.reference.com/browse/zigzag>).

Thus a zigzag can be interpreted as a linearly extending edge where the line that is formed happens to have several bends. Further, a zigzag also depicts a series of connected linearly extending contact edges as would be understood by any one of skill in the art. Note that there is nothing in the claim that structurally distinguishes how the edge extends linearly and as such in the broadest interpretation linearly can apply to an edge that is straight, arched, sinusoidal or zigzag. Thus, examiner asserts that the combination of Frantzen and Ehrfeld does in fact disclose linearly extending contact edges.

Appellants state that Ehrfeld does not provide for a V-shaped formed by the combination of the two fingers as required by the claim rather than being formed on each individual finger. However, the V-shaped opening indicated by examiner above does in fact take into consideration both fingers. Further, the reference numbers by way of example to indicate that there were several combinations that provided the feature of the V-shaped opening (see below indicated by squares).



Examiner further points out that the claim is not so limiting as appellants intended and in fact does not require that the V-shaped opening be formed by the combination of the projecting fingers. The claim state that the "fingers which define a substantially V-shaped opening" which can be interpreted that the V-shaped opening can be defined by any portion of the fingers. Nothing in that terminology requires that the V-shaped opening be formed by the combination of both fingers.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Art Unit: 3731

Respectfully submitted,

Elizabeth Houston

/Elizabeth Houston/

Examiner, Art Unit 3731

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